

10/575096

SEQUENCE LISTING

AP20 Rec'd PCT/PTO 10 APR 2006

<110> KYOWA HAKKO KOGYO CO., LTD.

<120> Process for producing the antibody composition using RNA which inhibits a function of α 1,6-fucosyltransferase

<130> 11621W01

<150> P2003-350167

<151> 2003-10-09

<160> 35

<170> PatentIn Ver. 2.1

<210> 1

<211> 2008

<212> DNA

<213> Cricetulus griseus

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<212> DNA

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<211> 1728

<212> DNA

<213> Homo Sapience

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aagaaacaga ccagaaatgg tctggggaag gatcatgaaa tcctgaggag gaggattgaa 360

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 <212> PRT

<213> Cricetulus griseus

<400> 5

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Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
35 40 45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
50 55 60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr
65 70 75 80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
85 90 95

Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Asp Leu Gly Lys Asp His
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Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
115 120 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Lys Leu Glu Gly Asn Glu
130 135 140

Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu
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Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
165 170 175

Gly Glu Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
180 185 190

Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Arg
 195 200 205

Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
 210 215 220

His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
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Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
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Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu
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Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val
 275 280 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
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Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Leu Arg Val His
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Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
 325 330 335

Arg Pro Gln Pro Trp Leu Glu Arg Glu Ile Glu Glu Thr Thr Lys Lys
 340 345 350

Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
 355 360 365

Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val
 370 375 380

His Val Glu Glu His Phe Gln Leu Leu Glu Arg Arg Met Lys Val Asp

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390

395

400

Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu
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Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
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Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
 465 470 475 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
 485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
 500 505 510

His Gln Pro Arg Thr Lys Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
 515 520 525

Ile Gly Val Ala Gly Asn His Trp Asn Gly Tyr Ser Lys Gly Val Asn
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<212> PRT

<213> Mus musculus

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Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
35 40 45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
50 55 60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr
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Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
85 90 95

Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Gly Leu Gly Lys Asp His
100 105 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
115 120 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys His Leu Glu Gly Asn Glu
130 135 140

Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu
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Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
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Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln

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Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu		
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His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr		
225	230	235 240
Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu		
245	250	255
Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu		
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Ser Thr Gly His Trp Ser Gly Glu Val Asn Asp Lys Asn Ile Gln Val		
275	280	285
Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu		
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Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Leu Arg Val His		
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Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile		
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Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys		
340	345	350
Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp		
355	360	365
Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val		
370	375	380

His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp
 385 390 395 400

Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Thr Leu Leu Lys Glu
 405 410 415

Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
 420 425 430

Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
 435 440 445

Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
 465 470 475 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
 485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
 500 505 510

His Lys Pro Arg Thr Glu Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
 515 520 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Ile Asn
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Arg Lys Leu Gly Lys Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
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<212> PRT

<214> Rattus norvegicus

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Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
35 40 45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
50 55 60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Thr Ala Thr
65 70 75 80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
85 90 95

Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Gly Leu Gly Lys Asp His
100 105 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
115 120 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys His Leu Glu Gly Asn Glu
130 135 140

Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu
145 150 155 160

Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
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Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
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Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Arg
195 200 205

Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
210 215 220

His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
225 230 235 240

Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
245 250 255

Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu
260 265 270

Ser Thr Gly His Trp Ser Gly Glu Val Asn Asp Lys Asn Ile Gln Val
275 280 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
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Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His
305 310 315 320

Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
325 330 335

Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
340 345 350

Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
355 360 365

Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val
370 375 380

His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp
 385 390 395 400

Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ala Leu Leu Lys Glu
 405 410 415

Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
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Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
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Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
 485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
 500 505 510

His Lys Pro Arg Thr Asp Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
 515 520 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn
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Arg Lys Leu Gly Lys Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
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<215> Homo Sapience

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Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
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Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
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Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Pro Ala Ile
65 70 75 80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
85 90 95

Ile Glu Asn Tyr Lys Lys Gln Thr Arg Asn Gly Leu Gly Lys Asp His
100 105 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
115 120 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Asn Leu Glu Gly Asn Glu
130 135 140

Leu Gln Arg His Ala Asp Glu Phe Leu Leu Asp Leu Gly His His Glu
145 150 155 160

Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
165 170 175

Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
180 185 190

Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Lys
195 200 205

Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
210 215 220

His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
225 230 235 240

Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
245 250 255

Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Ile
260 265 270

Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val
275 280 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
290 295 300

Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His
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Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
325 330 335

Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
340 345 350

Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
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Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val

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Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu		
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Ala Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile		
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg		
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Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val		
	450	455 460
Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln		
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Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile		
	485	490 495
Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Ile Tyr Ala		
	500	505 510
His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met Glu Pro Gly Asp Ile		
	515	520 525
Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn		
	530	535 540
Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu		
545	550	555 560
Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys		
	565	570

<210> 9
<211> 40
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 9
gaagggaguu gaaacucuga aaaugcgggc auggacuggu 40

<210> 10
<211> 31
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 10
gaggagaaug gcugagucuc uccgaauacc a 31

<210> 11
<211> 33
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 11
ccaaagacau gcagaugaaa uucuuuugga uuu 33

<210> 12

<211> 35

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 12

ucuuggaauc ucagaaauugg cgcuangcua cugga

35

<210> 13

<211> 32

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 13

auacacagaa aaucacuuuc ggggcgugau cc

32

<210> 14

<211> 34

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 14

ucaucccagg ucuguagggg ugcuaugaa auca

34

<210> 15

<211> 36

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 15

caucuacuau uuuggaggcc aaaaugccca caacca

36

<210> 16

<211> 31

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 16

ugcacuggug gaacgccucu uugugaaggg c

31

<210> 17

<211> 34

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 17

caagaagcuu ggcucaaac auccaguau ugga

34

<210> 18

<211> 35

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 18

uauggcaccc agcgaacacu caucuuggaa ucuca

35

<210> 19

<211> 31

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 19

gaggcgaaug gcugagucuc uccgaauacc a

31

<210> 20

<211> 31

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 20

gaggcgaaug gccgaauucuc uccggauacc a

31

<210> 21

<211> 33

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 21

ccaaagacau gcagaugaau uucuuuugga uuu

33

<210> 22

<211> 35

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 22

ucuuggaauc ucagaauugg cgcuangcua cuggu

35

<210> 23

<211> 32

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 23

guacacagaa aaucacuuu ggggugugau cc

32

<210> 24

<211> 32

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 24

auacacagaa aaucacuuc guggagugau cc

32

<210> 25

<211> 32

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 25

guacacagaa aaucacuuc ggggcgugau cc

32

<210> 26

<211> 34

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 26

ucauccagg ucugucgggu ugcuaugaa auca

34

<210> 27

<211> 34

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic RNA

<400> 27

ucauccagg ucugucgagu ugcuaugaa auua

34

<210> 28
<211> 36
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 28
caucuacuau uuuggaggcc aaaaugccca caauca

36

<210> 29
<211> 36
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 29
caucuacuau uuugggggcc agaaugccca caauca

36

<210> 30
<211> 34
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic RNA

<400> 30
caagaagcuu ggcuucaaac auccagucan ugga

34

<210> 31

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 31

gtctgaagca ttatgtgttg aagc

24

<210> 32

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 32

gtgagtacat tcattgtact gtg

23

<210> 33

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 33

ttcccagtca cgacgtt

17

<210> 34

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

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<400> 34

caggaaacag ctatgac

17

<210> 35

<211> 18

<212> PRT

<213> Homo sapiens

<220>

<400> 35

Asp Glu Ser Ile Tyr Ser Asn Tyr Tyr Leu Tyr Glu Ser Ile Pro Lys

1

5

10

15

Pro Cys

<210> 36

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 36

atcctcgtcc tccttactta cc

22

<210> 37

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 37

tccagctgac caagaaatag ag

22

<210> 38

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 38

gatatcgctg cgctcgctgt cgac

24

<210> 39

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 39

caggaaggaa. ggctggaaga gagg

24

<210> 40

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 40

cccaagcttg atatcaaggt cgggcaggaa gagggcctat

40

<210> 41

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 41

gctctagaga tatcaaaaaa ggtaccgagc tcggtgtttc gtcctttcca ca

52

<210> 42

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 42

cgaatggctg agtctctccg aataccagaa ctctctgtca ttctgggtatt cggagagact 60

cagccattcg gtac

74

<210> 43

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 43

cgaatggctg agtctctccg aataccagaa tgacaggaag ttctggtatt cggagagact 60

cagccattcg agct

74

<210> 44

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 44

cccagcgaac actcatcttg gaatctcaga cttcctgtca tctgagattc caagatgagt 60

gttcgctggg gtac

74

<210> 45

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 45

cccagcgaac actcatcttg gaatctcaga tgacaggaag tctgagattc caagatgagt 60

gttcgctggg agct

74

<210> 46

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 46

ggcagctgcg ccagggtttt cccagtcacg ac

32

<210> 47

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 47

cccagctgaa aaaaggtacc ctatgagctc ggggttggtt ttg

44

<210> 48

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 48

taaatagaat tcggcatcat gtggcagctg ct

32

<210> 49

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 49

aataaaggat cctggggtca tttgtcttga gggt

34

<210> 50

<211> 788

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (13)..(774)

<400> 50

gaa ttc ggc atc atg tgg cag ctg ctc ctc cca act gct ctg cta ctt 48

Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu

1

5

10

cta gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg 96

Leu Val Ser Ala Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val

15

20

25

ttc ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act 144

Phe Leu Glu Pro Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr

30

35

40

ctg aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg 192

Leu Lys Cys Gln Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp

45

50

55

60

ttt cac aat gag agc ctc atc tca agc cag gcc tcg agc tac ttc att 240

Phe His Asn Glu Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile

65

70

75

gac gct gcc aca gtc gac gac agt gga gag tac agg tgc cag aca aac 288

Asp Ala Ala Thr Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn

80

85

90

ctc tcc acc ctc agt gac ccg gtg cag cta gaa gtc cat atc ggc tgg 336

Leu Ser Thr Leu Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp

95

100

105

ctg ttg ctc cag gcc cct cgg tgg gtg ttc aag gag gaa gac cct att 384

Leu Leu Leu Gln Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile

110	115	120	
cac ctg agg tgt cac agc tgg aag aac act gct ctg cat aag gtc aca 432			
His Leu Arg Cys His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr			
125	130	135	140
tat tta cag aat ggc aaa ggc agg aag tat ttt cat cat aat tct gac 480			
Tyr Leu Gln Asn Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp			
145	150	155	
ttc tac att cca aaa gcc aca ctc aaa gac agc ggc tcc tac ttc tgc 528			
Phe Tyr Ile Pro Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys			
160	165	170	
agg ggg ctt ttt ggg agt aaa aat gtg tct tca gag act gtg aac atc 576			
Arg Gly Leu Phe Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile			
175	180	185	
acc atc act caa ggt ttg gca gtg tca acc atc tca tca ttc ttt cca 624			
Thr Ile Thr Gln Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro			
190	195	200	
cct ggg tac caa gtc tct ttc tgc ttg gtg atg gta ctc ctt ttt gca 672			
Pro Gly Tyr Gln Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala			
205	210	215	220
gtg gac aca gga cta tat ttc tct gtg aag aca aac att cga agc tca 720			
Val Asp Thr Gly Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser			
225	230	235	
aca aga gac tgg aag gac cat aaa ttt aaa tgg aga aag gac cct caa 768			
Thr Arg Asp Trp Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln			
240	245	250	
gac aaa tga ccc cag gat cc			788
Asp Lys			

<210> 51

<211> 254

<212> PRT

<213> Homo sapiens

<400> 51

Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu Leu Val Ser Ala

1

5

10

15

Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe Leu Glu Pro

	20		25		30
Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln					
35		40		45	
Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu					
50		55		60	
Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr					
65		70		75	
Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu					
	85		90		95
Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln					
100		105		110	
Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys					
115		120		125	
His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn					
130		135		140	
Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro					
145		150		155	
Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Phe					
	165		170		175
Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln					
180		185		190	
Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro Pro Gly Tyr Gln					
195		200		205	
Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala Val Asp Thr Gly					
210		215		220	
Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser Thr Arg Asp Trp					
225		230		235	
Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln Asp Lys					
	245		250		

<210> 52

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 52

tggttgatcc tgtcaatgat gatgatgatg atgaccttga gtgatggtga t

51

<210> 53

<211> 620

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (13)..(609)

<400> 53

gaa ttc ggc atc atg tgg cag ctg ctc ctc cca act gct ctg cta ctt 48

Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu

1

5

10

cta gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg 96

Leu Val Ser Ala Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val

15

20

25

ttc ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act 144

Phe Leu Glu Pro Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr

30

35

40

ctg aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg 192

Leu Lys Cys Gln Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp

45

50

55

60

ttt cac aat gag agc ctc atc tca agc cag gcc tcg agc tac ttc att 240

Phe His Asn Glu Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile

65

70

75

gac gct gcc aca gtc gac gac agt gga gag tac agg tgc cag aca aac 288

Asp Ala Ala Thr Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn

80

85

90

ctc tcc acc ctc agt gac ccg gtg cag cta gaa gtc cat atc ggc tgg 336

Leu Ser Thr Leu Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp

95

100

105

ctg ttg ctc cag gcc cct cgg tgg gtg ttc aag gag gaa gac cct att 384

Leu Leu Leu Gln Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile

110	115	120	
cac ctg agg tgt cac agc tgg aag aac act gct ctg cat aag gtc aca 432			
His Leu Arg Cys His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr			
125	130	135	140
tat tta cag aat ggc aaa ggc agg aag tat ttt cat cat aat tct gac 480			
Tyr Leu Gln Asn Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp			
	145	150	155
ttc tac att cca aaa gcc aca ctc aaa gac agc ggc tcc tac ttc tgc 528			
Phe Tyr Ile Pro Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys			
	160	165	170
agg ggg ctt ttt ggg agt aaa aat gtg tct tca gag act gtg aac atc 576			
Arg Gly Leu Phe Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile			
	175	180	185
acc atc act caa ggt cat cat cat cat cat cat tga cag gat cc 620			
Thr Ile Thr Gln Gly His His His His His His			
190	195		

<210> 54

<211> 199

<212> PRT

<213> Homo sapiens

<400> 54

Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu Leu Val Ser Ala			
1	5	10	15
Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe Leu Glu Pro			
	20	25	30
Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln			
	35	40	45
Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu			
	50	55	60
Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr			
	65	70	75
Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu			
	85	90	95
Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln			
	100	105	110

Ala	Pro	Arg	Trp	Val	Phe	Lys	Glu	Glu	Asp	Pro	Ile	His	Leu	Arg	Cys
	115						120					125			
His	Ser	Trp	Lys	Asn	Thr	Ala	Leu	His	Lys	Val	Thr	Tyr	Leu	Gln	Asn
	130					135					140				
Gly	Lys	Gly	Arg	Lys	Tyr	Phe	His	His	Asn	Ser	Asp	Phe	Tyr	Ile	Pro
145					150				155					160	
Lys	Ala	Thr	Leu	Lys	Asp	Ser	Gly	Ser	Tyr	Phe	Cys	Arg	Gly	Leu	Phe
				165					170					175	
Gly	Ser	Lys	Asn	Val	Ser	Ser	Glu	Thr	Val	Asn	Ile	Thr	Ile	Thr	Gln
		180						185					190		
Gly	His	His	His	His	His	His									
	195														